Software Manager

START

Develop a
Software
Acquisition Plan
(see Note 8)

Requester

Submit the
Software
Acquisition Plan for
authorization
(see Note 1)

Review and
authorize the
Software
Acquisition Plan
(see Note 1)

Use existing
contract?
(see Note 2)

No

Yes

Submit the
Software
Acquisition Plan for
authorization to the
contracting officer
(CO) or the
contracting officer's
technical
representative
(COTR)
(see Note 3)

CO or COTR

Follow LMS-CP-
4501 to select the
contractor
(see Note 3)

Review the
Software
Acquisition Plan
and authorize the
work

Contractor

Review and submit
the SPMP for
authorization
(see Note 1)

Develop the SPMP
and deliver to the
software manager

Inform the
contractor to
implement the
SPMP
(see Note 2)

Review and
authorize the
SPMP
(see Note 1)

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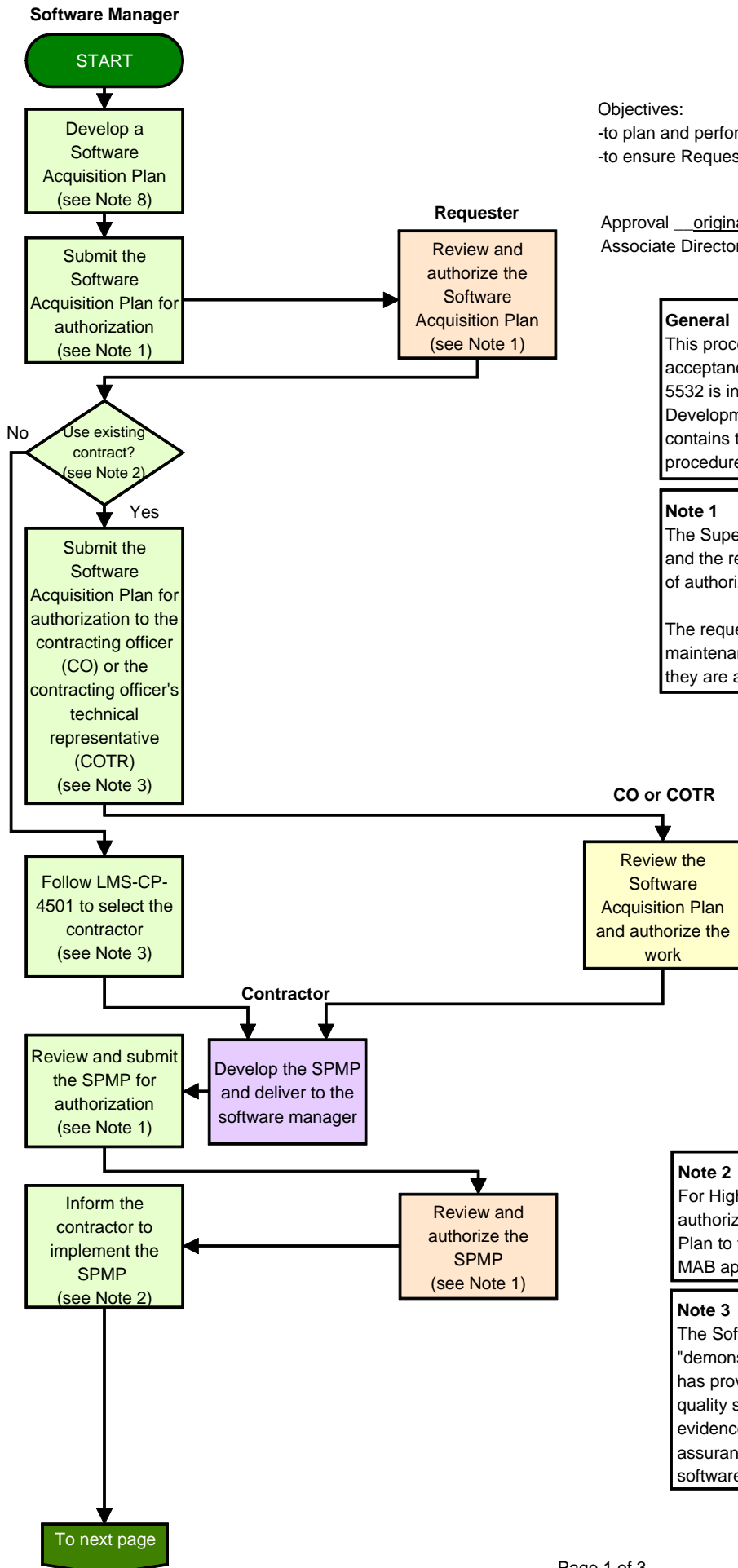
Objectives:
-to plan and perform software acquisition at LaRC
-to ensure Requester Requirements are met

Approval ___original signed on file_____ 5/14/08_____
Associate Director   Date

General
This procedure applies to the purchase, monitoring, review, and
acceptance of software externally developed for LaRC. LMS-CP-
5532 is invoked by following LMS-CP-5528, Software Planning,
Development, Acquisition, Maintenance, and Operations, which
contains the complete set of definitions and references used in this
procedure.

Note 1
The Supervisor(s) is responsible for authorizing human resources
and the requester is responsible for authorizing the Plan. A record
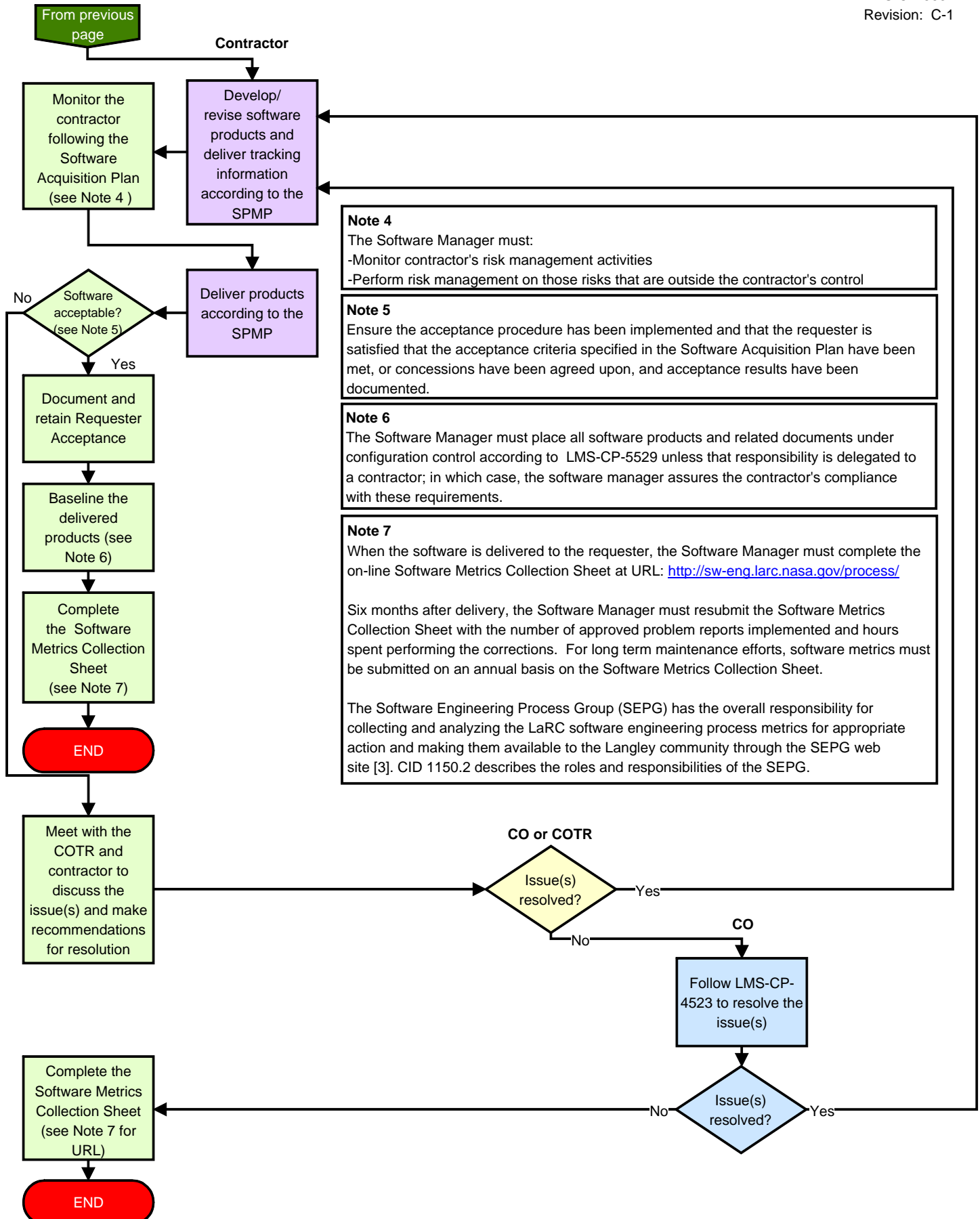of authorization must be retained.

The requester must ensure that installation, operations, and
maintenance phases of the project are addressed in the Plan if
they are applicable.

Note 2
For High-Control and Critical-Control software, following
authorization of the Plan, submit a paper or electronic copy of the
Plan to the Head, Mission Assurance Branch (MAB) and obtain
MAB approval before proceeding.

Note 3
The Software Manager must require that the contractor (provider)
"demonstrate that the provider of the software to be developed
has proven organizational capabilities and experience to deliver
quality software on time and within budget; require acceptable
evidence of the entity's software management, engineering, and
assurance standards, processes, and practices to produce quality
software" [11].

Software Manager

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Contractor

Monitor the contractor following the Software Acquisition Plan (see Note 4)

Develop/ revise software products and deliver tracking information according to the SPMP

Software acceptable? (see Note 5) — No / Yes

Deliver products according to the SPMP

Document and retain Requester Acceptance

Baseline the delivered products (see Note 6)

Complete the Software Metrics Collection Sheet (see Note 7)

END

Note 4
The Software Manager must:
-Monitor contractor's risk management activities
-Perform risk management on those risks that are outside the contractor's control

Note 5
Ensure the acceptance procedure has been implemented and that the requester is satisfied that the acceptance criteria specified in the Software Acquisition Plan have been met, or concessions have been agreed upon, and acceptance results have been documented.

Note 6
The Software Manager must place all software products and related documents under configuration control according to LMS-CP-5529 unless that responsibility is delegated to a contractor; in which case, the software manager assures the contractor's compliance with these requirements.

Note 7
When the software is delivered to the requester, the Software Manager must complete the on-line Software Metrics Collection Sheet at URL: http://sw-eng.larc.nasa.gov/process/

Six months after delivery, the Software Manager must resubmit the Software Metrics Collection Sheet with the number of approved problem reports implemented and hours spent performing the corrections. For long term maintenance efforts, software metrics must be submitted on an annual basis on the Software Metrics Collection Sheet.

The Software Engineering Process Group (SEPG) has the overall responsibility for collecting and analyzing the LaRC software engineering process metrics for appropriate action and making them available to the Langley community through the SEPG web site [3]. CID 1150.2 describes the roles and responsibilities of the SEPG.

Meet with the COTR and contractor to discuss the issue(s) and make recommendations for resolution

CO or COTR

Issue(s) resolved? — Yes / No

CO

Follow LMS-CP-4523 to resolve the issue(s)

Issue(s) resolved? — No / Yes

Complete the Software Metrics Collection Sheet (see Note 7 for URL)

END

Note 8

The Software Acquisition Plan may be stand-alone or included as sections of the parent project plan and must include:

-Project title

-Software Manager's name and percentage of time allocated to this role

-The class(es) of the software to be delivered

-The functions and products required by the designated class(es)

-Scope of the software project

-Requester Requirements

-Software Requirements (when developed prior to acquisition)

-Defined responsibilities for contractor and civil service personnel, including how changes to the Software Acquisition Plan are to be made

-List of deliverables, including the Software Project Management Plan (SPMP) and any installation, operations, and maintenance plans, requested delivery schedule, and end date

-Which primary and supporting processes, activities, and tasks from IEEE 12207 must be utilized to deliver High- and Critical-Control class software and how they will be tailored

-Acceptance procedure and criteria for testing incoming products against requirements and rejecting defective items

-The extent of contractor involvement in acceptance testing

-The schedule for joint reviews of: technical, cost, staffing, and schedule performance against the SPMP; verification and validation results; and status of products, problems, and changes to the SPMP

-How the review results will be documented and retained

-Date of approval of the Software Acquisition Plan and Requester's name (this serves as an electronic record of approval)

The following tracking information and changes to it must be provided to the Supervisor:

-Project title

-Software Manager's name and the percentage of time allocated to this role

-Software class(es)

-End date

 (Note: Document 193 [3] may be used to retain a record of this information)

Specify in the Software Acquisition Plan:

-That the contractor must deliver a Software Project Management Plan (SPMP) addressing the requirements given in LMS-CP-5528 Section 3, excluding paragraph 3.1.2 (and Section 4 for Critical-Control projects)

-That the SPMP must be baselined following the contractor's Configuration Management Plan

-That the contractor's primary point of contact be identified to the Software Manager

-That detailed tasks must be assigned to qualified software project team members

-That software activities must be performed according to the authorized SPMP

-That start and end dates of the SPMP schedule elements must be updated and reported to the Software Manager as the schedule changes

-That a Software Version Description must be documented and submitted to the Software Manager with each delivery that contains the following information; project title, date of delivery, point of contact, inventory of all baselined configuration items to be delivered, including unique configuration item identifier and description, instructions for reading and installing configuration items, and a description of all changes incorporated in this delivery

-That the contractor must deliver information required to complete the Software Metrics Collection Sheet, located at:
 http://sw-eng.larc.nasa.gov/process/

Also, consideration must be given to any additional project control metrics that are needed to monitor project status. If additional control metrics are needed, the requirements for project control metrics to be collected, the collection process, and the responsibilities for collection and analysis must be specified in the Software Acquisition Plan. These metrics are in addition to those collected on the Software Metrics Collection Sheet and are used purely for management tracking and control purposes.

Guidance on software contract management can be found in *The Capability Maturity Model* [19], section 7.4, Software Subcontract Management. Additional guidance on acquisition planning can be found in [6].

All solicitation, contract, and tasking text must be reviewed following LMS-CP-5523, Statement of Work (SOW) Review Procedure, before proceeding.